

IN THE CLAIMS

In response to the Notice to file corrected application papers, Applicants hereby resubmit the claims on the following separate pages:

We Claim:

1. A method for interactive home treatment of a patient suffering from a disease, said method comprising the steps of:
 - a. collecting information from said patient regarding one or more episodes related to said syndrome, and
 - b. analyzing said information, wherein said analyzing comprises identifying the presence or absence of predetermined patterns of said symptoms; actions, indicators, and/or changes.
2. A method as defined in claim 1, wherein the disease comprises a chronic and/or episodic syndrome and said collected information comprises one or more of:
 - (i) the nature, severity, and/or timing of symptoms, wherein said symptoms may comprise one or more clinical indicators;
 - (ii) one or more predisposing factors that are predictive of onset of an episode;
 - (iii) one or more actions related to treatment that have been self-administered by the patient and/or administered to the patient by a surrogate; and
 - (iv) one or more changes in the symptoms, indicators, factors, or actions over time.
3. A method as defined in claim 1 further comprising providing feedback to said patient based on said analysis.
4. A method as defined in claim 1, wherein
 - (i) said collecting and/or providing step is achieved using a microprocessor having storage means capable of storing said information, an input means, a display operationally connected to the microprocessor, and a means for transmitting said information to a second device; and

- (ii) said analyzing step is achieved using a central computer capable of receiving and analyzing said transmitted information and providing said feedback.
5. A method as defined in claim 1, wherein said collecting comprises entry by said patient of said information using a handheld computer.
6. A method as defined in claim 1, wherein said analyzing comprises application of one or more rules to said information.
7. A method as defined in claim 6, wherein said rules comprise one or ore of:
- (i) a specified threshold time interval during which the patient has not reported any data;
 - (ii) a specific threshold time interval from onset of a particular symptom to administration of treatment;
 - (iii) a specified threshold number of self-treatment actions to treat one particular episode; and
 - (iv) a specified clinical outcome of the episode.
8. A method as defined in claim 1, wherein said disease is selected from the group consisting of diabetes, hemophilia, asthma, chronic liver disease, hypertension, acquired immune deficiency syndrome, multiple sclerosis, rheumatoid arthritis, and other autoimmune diseases, epilepsy, chronic or recurring viral infections, chronic kidney insufficiency with home dialysis, chronic myocardial insufficiency, chronic anticoagulant treatment, Crohn's disease, ulcerative colitis, sickle cell anemia, thalassemia, malaria, cancer, chronic pain syndrome, peripheral vascular disease, and chronic substance abuse.
9. A method as defined in claim 1, further comprising repeating said collecting, analyzing, and providing steps.

10. A method as defined in claim 9, wherein said predetermined rules are modified for a single patient based on said repeated information and analysis.

11. A method for assisting in the treatment of a disease, the method comprising the steps of:

- (i) collecting from a plurality of patients information relating to symptoms and/or self-treatment of the disease via a handheld electronic device;
- (ii) transmitting the information collected by the handheld device to a database;
- (iii) analyzing the data in the database;
- (iv) providing the results of the analysis to a health care professional treating one of the plurality of patients;
- (v) receiving from the health care professional a message for the one patient; and
- (vi) transmitting the message to the one patient's handheld electronic device.

12. A method as in claim 11, wherein the analysis step comprises applying a predetermined set of rules to the data.

13. A method as in claim 12 wherein the predetermined rules comprise general rules, group rules, and individual rules.

14. A system for assisting a health care professional in managing the treatment of a particular patient that has a disease, the system comprising:

- (i) a plurality of patient interface devices for: collecting data from a plurality of patients, transmitting the data, and receiving instructions relating to treatment of the disease;
- (ii) a database for storing the data;
- (iii) an analytic tool for analyzing the data in the database and providing a patient-specific analysis for the particular patient to the health care professional;
- (iv) a means for receiving from the health care professional a message for the particular patient; and
- (v) a means for transmitting the message from the health care professional to the patient.

15. The system of claim 14, wherein the analytic tool applies a set of rules to the data.

16. The system of claim 15, wherein the rules may be modified by the health care professional, the patient, or both.

17 A system for assisting a patient in treating a disease, the system comprising a patient interface device comprised of:

- (i) a memory unit;
- (ii) a display unit;
- (iii) an input means;
- (iv) a communication means for communicating over a network;
- (v) a processor interfaced with the memory unit, the display unit, the input means, and the communication means, wherein the processor:

upon entering an activation mode, is configured to prompt the user to enter data related to the patient's treatment of the disease;

is configured to store the data in the memory prior to exiting the activation mode;

upon re-entering the activation mode, is configured to prompt the user to enter follow-up data relating to previously reported data; and is configured to transmit the data and follow-up data over the network to one or more network addresses; and

an analysis tool having a second processor configured:

to receive, from the network, the patient data relating to the patient's treatment of the disease and the follow-up data;

to apply a predetermined set of disease specific rules to generate an analysis of the data and follow-up data;

to generate a message based on the analysis;

to generate, upon request, a report based on the analysis; and

to transmit the message over the network.

18. The system of claim 17, wherein the message is transmitted to a treating health care professional.
19. The system of claim 17, wherein the message is transmitted to the patient interface device.
20. The system of claim 17, wherein the input means for the patient interface device comprises a barcode reader and a touch screen.
21. The system of claim 17, further comprising a database located at a network location accessible to both the patient interface device and the analysis tool.
22. The system of claim 21, wherein the database contains data and follow-up data from a plurality of patients having the same disease.

23. The system of claim 17, wherein the patient interface device further comprises drug delivery device.
24. The system of claim 23, wherein the drug delivery device is configured to deliver a therapeutic agent for the treatment of hemophilia.
25. The system of claim 23, wherein the drug delivery device is configured to deliver a therapeutic agent for the treatment of diabetes.
26. The system of claim 17, wherein the patient interface device further comprises a medical monitor for monitoring one or more specific parameters related to the patient's disease.
27. The system of claim 26, wherein the medical monitor monitors a bodily parameter.
28. The system of claim 27, wherein the parameter is a blood parameter.
29. The system of claim 28, wherein the blood parameter comprises at least one of blood pressure, blood coagulation, haemoglobin, or creatinine.
30. A patient interface device for assisting a patient in the treatment of a disease, the device comprised of:
 - (i) a memory unit
 - (ii) a display unit
 - (iii) an input means
 - (iv) a communication means;
 - (v) a processor interfaced with the memory unit, the display unit, the communication means, and the input means, wherein the processor:
 - upon entering an activation mode, is configured to prompt the user to enter data related to the patient's treatment of the disease;

is configured to store the data in the memory prior to exiting the activation mode;

upon re-entering the activation mode, is configured to prompt the user to enter follow-up data relating to a previously reported data; and is configured to transmit the data and follow-up data over the network to one or more network addresses.

31. A system for analyzing patient data from one or more patients with a disease, the system comprising:

- (i) a communication means for receiving data collected contemporaneously with an administration of a self-treatment or an onset of a symptom of the disease;
- (ii) a processor configured to apply a predetermined set of criteria to the data to generate an analysis of the data and configured to generate a patient message based on the analysis; and
- (iii) a means for transmitting the message based on the analysis over the network to the patient.

32. The system of claim 31, further comprising a patient data input means for collecting the contemporaneous data associated with the self-administration of the treatment or the onset of the symptom of the disease.

33. An electronic database for assisting in the self-treatment of a disease, the database comprised of:

- (i) a data element representative of the disease being treated; and
- (ii) data from a plurality of patients who have the same disease, the data relating to one or more symptoms of the disease and self-administered treatments for the disease that are administered for prevention of symptoms or in response to the symptom(s), the data being collected contemporaneously with the onset of the symptom(s) or the administration of the treatments.

34. The database of claim 33, wherein the database is accessible over a network by a patient input device having a first network address and an analysis tool having a second and distinct network address.
35. The database of claim 34, wherein the database is organized by an analytic tool to allow near automatic extraction of medically useful information relating to treatment of the disease by a health care professional.
36. The database of claim 33, wherein the data comprises follow-up data collected after the administration of the self-treatment in response to the onset of the symptom and wherein the follow-up data related to the resolution of the symptom.
37. A method for assisting in the treatment of a patient with a disease comprising the steps of:
- (i) recording data related to self-administration of a treatment for the disease or a symptom of the disease contemporaneously with onset of the symptom or the administration of the self-treatment;
 - (ii) transmitting the data over a network to a database that is accessibly by an analysis tool;
 - (iii) analyzing the data with the analysis tool by applying a predetermined set of rules to the data;
 - (iv) generating a physician or care-giver report and/or a patient message based on the analysis; and
 - (v) transmitting the message to the patient over the network.
38. The method of claim 37, wherein the database and analysis tool are located on the network at distinct network addresses and wherein the network is utilized to transmit the data from the database to the analysis tool.
39. The method of claim 37, wherein the message is transmitted to a health care professional.
40. A system for monitoring the treatment of a patient over a communication network, the

system comprising:

- a means for allowing the patient to input data about self treatment steps taken by the patient and/or symptoms observed by the patient;
- a means for allowing a clinic to input data about clinical treatment of the patient;
- a means for processing the patient inputted data and the clinic inputted data and for storing the data in a database; and
- a means for allowing a medical practitioner to access the data in the database.

41. The system of claim 40, further comprising a means for allowing the medical practitioner to manipulate the data in the database.

42. The system of claim 41, wherein the means for allowing the medical practitioner to manipulate the data utilizes a set of predetermined rules.

43. A system for monitoring the treatment of a patient over a communication network, the system comprising:

a means for allowing the patient to input data about self treatment steps taken by the patient and/or symptoms observed by the patient;

a means for allowing a clinic to input data about clinical treatment of the patient;

a database for storing the clinic-inputted data and the patient-inputted data;

a means for applying a set of rules to the data to manipulate the data; and

a means for allowing a medical practitioner to access the data in the database;

wherein the database (i) is stored at a location other than the clinic or (ii) is not under control of the patient.

44. A method for assisting in the treatment of a patient having a medically prescribed treatment regimen, the method comprising the steps of:

- a. collecting directly from the patient data relating to patient-observed symptoms or patient-directed self-treatment steps;

- b. collecting from a clinic data relating to (i) a patient's symptoms observed by practitioners in the clinic and / or (ii) a treatment administered by the clinic;
- c. storing the data collected in steps a and b at a central location; and
- d. providing access to the data in step c to a medical practitioner.

45. The method of claim 44, further comprising the step of providing the medical practitioner with a means to analyze the data to adjust the patient's treatment regimen.

46. The method of claim 45, wherein the medical practitioner is provided with tools to economically optimize the patient's treatment regime without adversely affecting the patient's health.